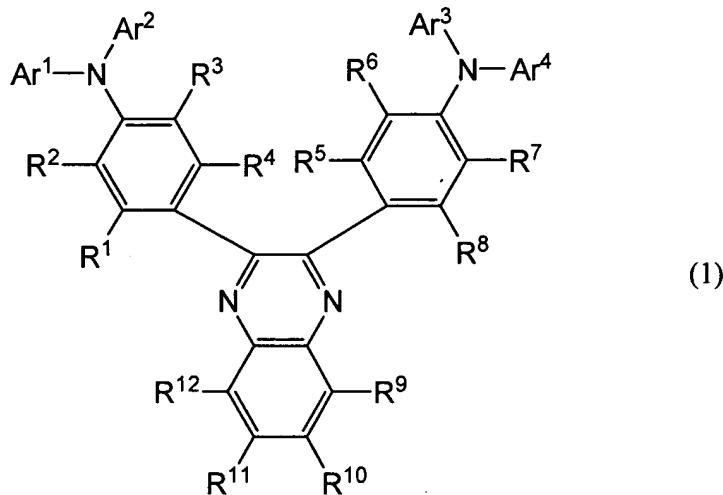


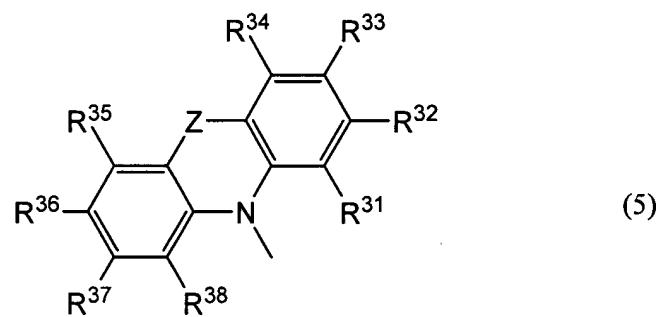
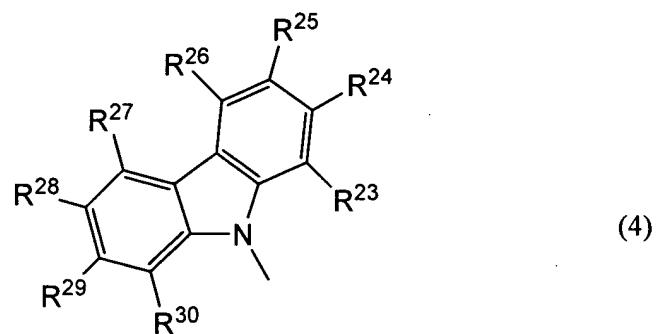
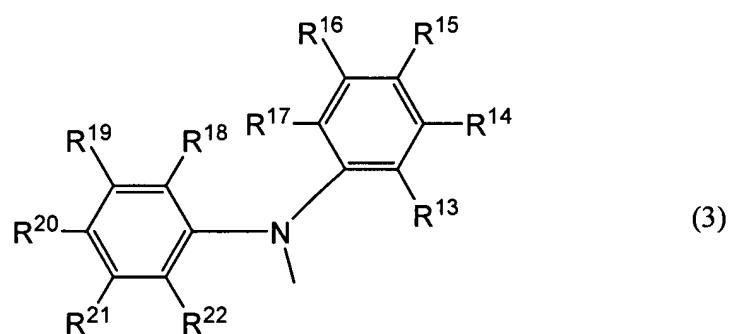
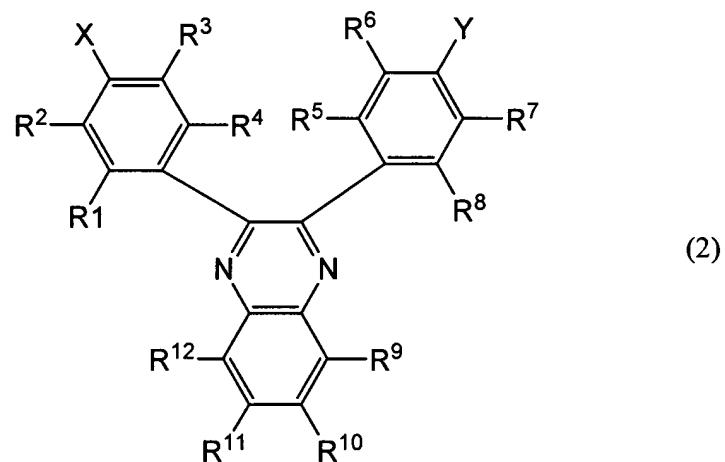
CLAIMS

1. A quinoxaline derivative represented by a general formula (1).



5 (In the formula, R¹ - R¹² each independently represents a hydrogen atom, a halogen atom, a lower alkyl group, an alkoxy group, an acyl group, a nitro group, a cyano group, an amino group, a dialkylamino group, a diarylamino group, a vinyl group, an aryl group, or a heterocyclic residue group; R⁹ and R¹⁰, R¹⁰ and R¹¹, and R¹¹ and R¹² are each independent or mutually bonded to form an aromatic ring; Ar¹ -
10 Ar⁴ each independently represents an aryl group or a heterocyclic residue group; Ar¹, Ar², Ar³ and Ar⁴ are each independent or Ar¹ and Ar², and Ar³ and Ar⁴ are respectively mutually bonded directly, or Ar¹ and Ar², and Ar³ and Ar⁴ are bonded via oxygen (O), sulfur (S) or a carbonyl group.)

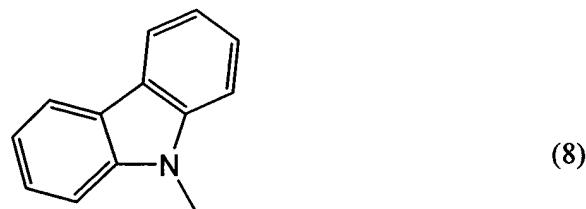
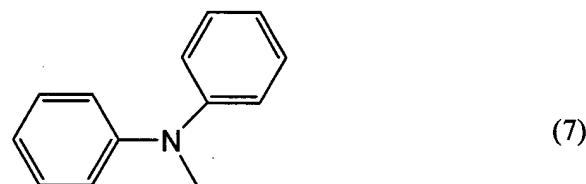
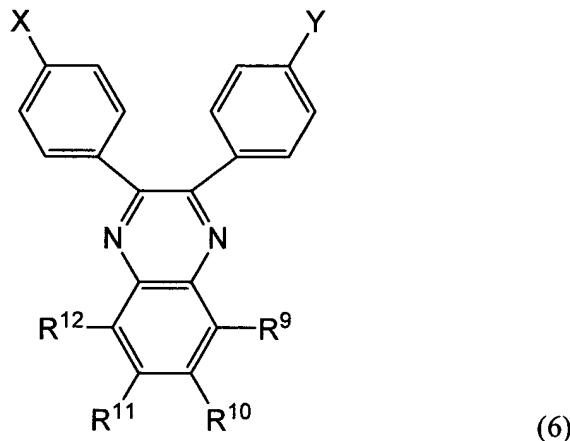
15 2. A quinoxaline derivative represented by a general formula (2).

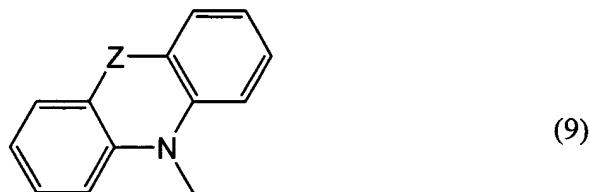


(In the formula, X and Y each independently represents any of general formulas (3) - (5); R¹ - R³⁸ independently represents a hydrogen atom, a halogen atom, a lower alkyl group, an alkoxy group, an acyl group, a nitro group, a cyano group, an amino group, a dialkylamino group, a diaryl amino group, a vinyl group, an aryl group, or a heterocyclic residue group; R⁹ and R¹⁰, R¹⁰ and R¹¹, and R¹¹ and R¹² are each independent or are mutually bonded to form an aromatic ring; Z represents oxygen (O), sulfur (S) or a carbonyl group.)

3. A quinoxaline derivative represented by a general formula (6).

10

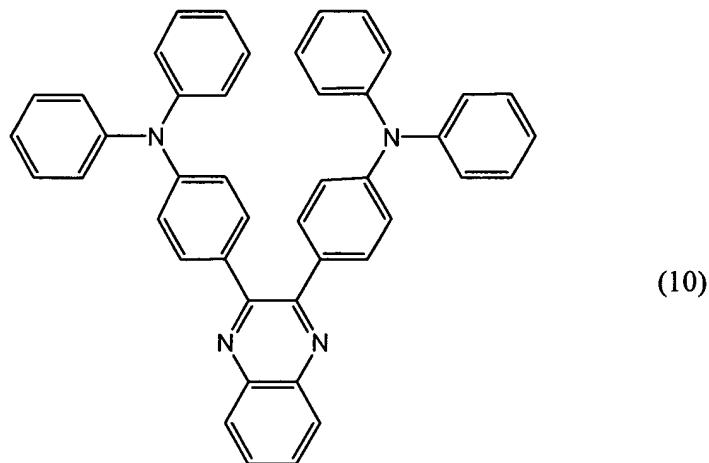




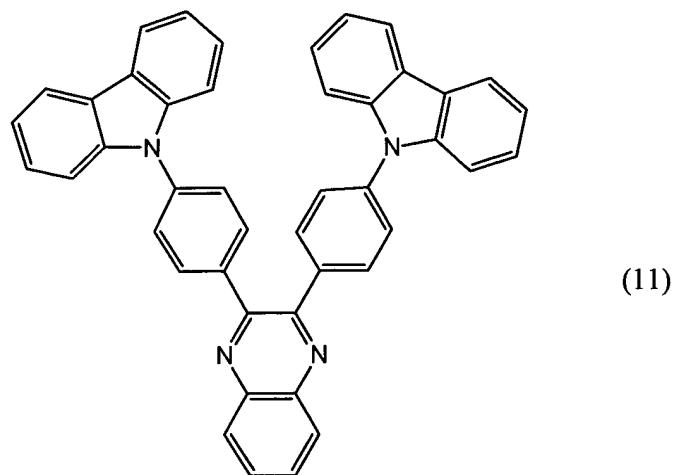
(In the formula, X and Y each is represented by either one of formulas (7) - (8); in the formula, R⁹ - R¹² independently represents a hydrogen atom, a halogen atom, a lower alkyl group, an alkoxy group, an acyl group, a nitro group, a cyano group, an amino group, a dialkylamino group, a diarylamino group, a vinyl group, an aryl group, or a heterocyclic residue group; R⁹ and R¹⁰, R¹⁰ and R¹¹, and R¹¹ and R¹² are each independent or mutually bonded to form an aromatic ring; Z represents oxygen (O), sulfur (S) or a carbonyl group.)

10

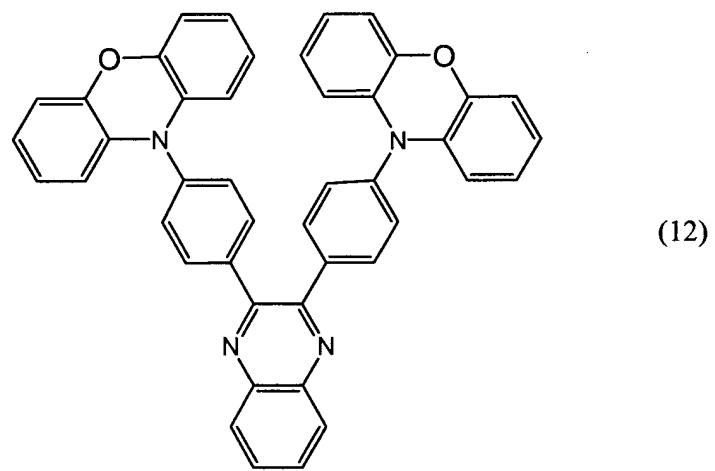
4. A quinoxaline derivative represented by a structural formula (10).



5. A quinoxaline derivative represented by a structural formula (11).

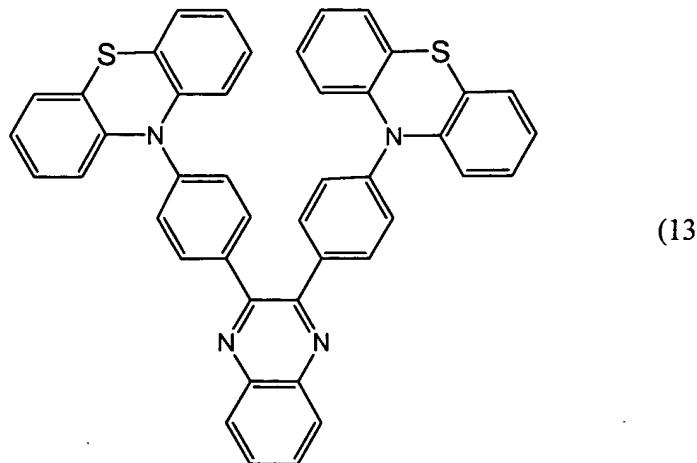


6. A quinoxaline derivative represented by a structural formula (12).

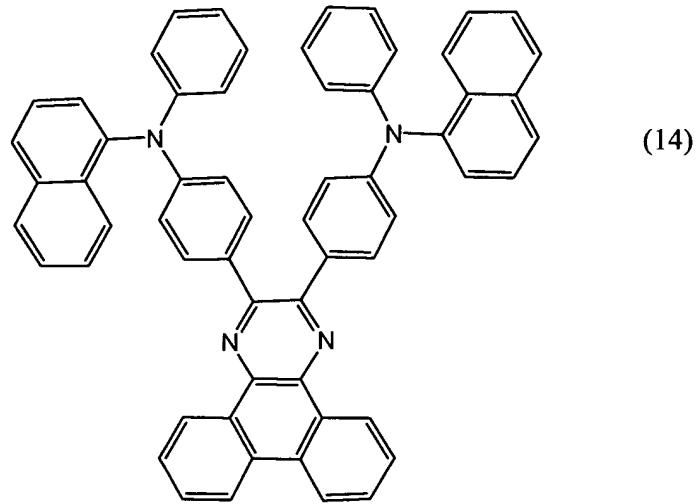


5

7. A quinoxaline derivative represented by a structural formula (13).



8. A quinoxaline derivative represented by a structural formula (14).



5

9. An electric field light emitting device characterized by including said quinoxaline derivative according to any one of claims 1 to 8, between a pair of electrodes.

10. An electric field light emitting device characterized by including a light emitting layer containing said quinoxaline derivative according to any one of claims 1

to 8 between a pair of electrodes, and a phosphorescent material showing a light emission from a triplet excited state.

11. An electric field light emitting device according to claim 8,
5 characterized in that a light emission spectrum of said phosphorescent material in
claim 10 has a peak from 560 to 700 nm.

12. A host material including said quinoxaline derivative according to any
one of claims 1 to 8.

10

13. An organic semiconductor device characterized in that said quinoxaline
derivative according to any one of claims 1 to 8 is included in an active layer.

15

14. An electronic device characterized by employing said electric field light
emitting device according to claim 10.

15. An electronic device according to claim 14, characterized in that said
electronic device is any one of a personal computer, a portable telephone and a
television receiver.

20

16. An electronic device characterized by employing said organic
semiconductor device according to claim 13.

25

17. An electronic device according to claim 16, characterized in that said
electronic device is any one of a personal computer, a portable telephone and a

television receiver.